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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,638	01/13/2004	Weimin Li	MICRON.140DV1C1	4659

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EXAMINER

LUHRS, MICHAEL K

ART UNIT PAPER NUMBER

2824

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/757,638

Applicant(s)

LI ET AL.

Examiner

Michael K. Luhrs

Art Unit

2824

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>search history</u> . |

Art Unit: 2824

DETAILED ACTION***Claim Objections***

1. Claim 1 is objected to because of the following informalities: claim 1, step (viii) replace "conductive" with --platinum-- to match the "platinum" precursor gas (antecedent) in steps (ii) and (vii). Appropriate correction is required.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-7, 9 and 10 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims {1,3, 12} and 4, 5, 8, 9, 10, 11, 13, 14 of U.S. Patent No. 6,576,538. Although the conflicting claims are not identical, they are not patentably distinct from each other because they claim similar subject matter. The chart below shows claims {1, 3, 12} of '538 as they compare to claim 1 of the present application. It can be seen that the present application having the **platinum** precursor gas is of the same subject as '538 claim 1 conductive precursor gas (i.e. platinum is conductive) as further seen in '538 claim 3 is a **platinum** precursor gas. And the "halting" occurs in claim 12 of '538.

'538	Present application
1. A method of forming a conductive layer on a semiconductor device, the method comprising:	(Currently Amended) A method of forming a platinum conductive layer on a semiconductor device, the method comprising;
(i) positioning a semiconductor device within a chemical vapor deposition chamber;	(i) positioning the semiconductor device within a chemical vapor deposition chamber;
(ii) introducing a conductive	(ii) introducing a platinum precursor

Art Unit: 2824

precursor gas into the chemical vapor deposition chamber for a first period of time;	gas into the chemical vapor deposition chamber for a first period of time so as to deposit a platinum conductive layer on the device;
(ii) (sic) introducing a reactant into the chemical vapor deposition chamber for a second period of time, so that the conductive layer is formed on the semiconductor device and organic waste compounds positioned within and on the conductive layer of the first thickness are removed;	(iii) introducing a reactant into the chemical vapor deposition chamber for a second period of time, so that organic waste compounds contacting the platinum conductive layer are removed to thereby facilitate <i>subsequent</i> deposition of the platinum conductive layer; and
(iv) monitoring the rate of deposition of the conductive layer, wherein the supply of conductive precursor gas is halted upon determining when the rate of deposition is less than a desired threshold; and	See (v) (vi) and (vii) below
(v) continuing acts (ii), (iii), and (iv) until the conductive layer of a desired thickness is achieved.	(iv) continuing acts (ii) and (iii) until the conductive layer of a desired thickness is achieved)
	(v) monitoring the rate of deposition of the platinum layer: (vi) determining when the rate of deposition has decreased below a desired threshold; (vii) halting the supply of platinum precursor gas upon determining that the rate of deposition is less than the desired threshold: and
3. The method of claim 1, wherein introducing the conductive precursor gas into the chemical vapor deposition chamber comprises introducing a platinum precursor gas into the chemical vapor deposition chamber.	
12. The method of claim 1, further comprising: providing only the reactant after halting the supply of the conductive precursor gas.	(viii) providing the reactant after halting the supply of the conductive (sic) -platinum-precursor gas.

Conclusion

Art Unit: 2824


4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael K. Luhrs whose telephone number is 571-272-1874. The examiner can normally be reached on M-F, 8-5.

6. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard T. Elms can be reached on 571-272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Michael K. Luhrs
11/22/04


Gok Chandra
Supervisory Patent Examiner
Technology Center 2800